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| EXAMINER | |
| COLBERT, ELLA | |
| ART UNIT | PAPER NUMBER |
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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Paper No. 26

Application Number: 09/016,002
Filing Date: January 30, 1998
Appellant(s): LAMPERT ET AL.

MAILED

FEB 10 2003

Kozak, Frank J., Reg. No. 32,908

GROUP 3600

For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 12/08/02.

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(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) *Summary of Invention*

The summary of invention contained in the brief is correct.

(6) *Issues*

The appellant's statement of the issues in the brief is correct.

(7) *Grouping of Claims*

Appellant's brief includes a statement that Group 1, claims 3, 8-10, 19, 20, 23, and 26-28; Group 2, claim 2; Group 3, claim 4; Group 4, Claims 5, 17, and 29; Group 5, claim 6; Group 6, claim 7; Group 7, claim 24; Group 8, claims 13 and 25; Group 9, claim 14, and Group 10, claims 15 stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) *Claims Appealed*

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The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) *Prior Art of Record*

4,888,698

DRIESSEN et al

12-1989

(10) *Grounds of Rejection*

The following ground(s) of rejection are applicable to the appealed claims:

Claims 2-10, 13-15, 17, 19, 20, and 23-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over (US 4,888,698) Driessen et al, hereafter Driessen.

This rejection is set forth in prior Office Action, Paper No. 20.

With respect to claims 2, Driessen did not explicitly teach, the first index being a bitmap, but it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the first index to be a bitmap because a data structure in memory represents information in the form of a collection of individual bits. A bit map is used to represent a bit image such as a geographical map.

With respect to claim 3, the sub-areas being a sub-rectangle (col. 1, lines 44-53)

With respect to claim 4, the first index is stored internally of the parcel associated therewith (col. 2, lines 60-68 and col. 8, lines 65-68).

With respect to claim 5, the parcels storing a second index identifying boundaries of each of the plurality of sub-areas (col. 7, lines 65-68).

With respect to claim 6, Driessen did not explicitly teach, the second index is a kd-tree index, but it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a kd-tree index for the second index because using a kd-index is one way of ordering parcels by using a depth-first within each parcel

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type and layer. This provides an ordering similar to the Peano-key ordering taught in Driessen in col. 7, lines 62-68 and col. 8, lines 1-4.

With respect to claim 7, Driessen did not teach the second index is stored internally of the parcel, but it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a second index for storing the parcel internally because an index is well known to one of ordinary skill in the art at the time the invention was made to have the second index for storing a parcel because an index is a way of sorting and accessing data or files by creating an alphabetical list of keywords. An index speeds up the retrieval of data from storage.

With respect to claim 8, the data entities represent geographic features encompassing each of the sub-areas that are approximately equal in number to the data entities representing geographic features encompassed by each of the other sub-areas (col. 8, lines 17-38 and col. 9, lines 17-42).

With respect to claim 9, the data entities represent segments of roads in the geographic region (col. 4, lines 35-42, col. 5, lines 29-33 and lines 51-55, and col. 6, lines 47-54).

With respect to claim 10, the step of dividing forms eight sub-areas (col. 9, lines 21-33).

With respect to claim 13, this dependent claim is rejected for the similar rationale given for claim 9.

With respect to claim 14, this dependent claim is rejected on grounds corresponding to the rejections given above for dependent claim 6. In dependent claim

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14, Applicant claims a method which contains steps corresponding to the method of rejected dependent claim 6.

With respect to dependent claim 15, this claim is rejected on grounds corresponding to the rejections given above for dependent claim 2. In dependent claim 15, Applicant claims a method which contains steps corresponding to the method of rejected dependent claim 2.

With respect to claim 17, Driessen did not teach, a plurality of index tables of a second type associated with a respective one of the plurality of parcels wherein the index tables of the second type comprises: a reference to each of the plurality of separate sub-areas into which the area associated with the parcel is divided, but it would have been obvious to one of ordinary skill in the art at the time the invention was made to have index tables associated with a separate one of the parcels where each of the index tables of the second type comprises a reference to each of the plurality of separate sub-areas into which the area is associated with the parcel is divided because an index table is well known to one of ordinary skill in the art at the time the invention was made to have the index tables of a second type associated with separate plurality of parcels where each of the index tables of the second type comprises a reference to each of the plurality of separate sub-areas into which the area associated with the parcel is divided because index tables are a way of sorting and accessing data or files by creating an alphabetical list of keywords of the sub-areas associated with the divided parcel. An index speeds up the retrieval of data from storage.

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With respect to claim 19, the sub-areas associated with each parcel are spatially organized (col. 6, lines 40-67 and col. 7, lines 1-29).

With respect to claim 20, the groupings of the data entities associated with each rectangular sub-area are approximately similar in number to each other (col. 8, lines 17-38).

With respect to claim 23, separating a plurality of data entities that represent the geographic features in a plurality of parcels (col. 4, lines 35-39), each parcel of the plurality of parcels contains a separate subset of the plurality of data entities (col. 1, lines 10-33), the subset of the plurality of data entities contained in each parcel represents the geographic features located in a separate one of a plurality of areas into which the geographic region is divided for each parcel of the plurality of parcels (col. 4, lines 25-34 and fig. 1), dividing the area associated into a plurality of sub-areas (col. 5, lines 15-33), storing a first index that identifies for each of the data entities contained in the parcel each of the sub-areas intersected by the geographic feature represented (col. 8, lines 13-44), and each sub-area in which a geographic feature is located can be determined by using the first index (col. 4, lines 36-39 and col. 5, lines 15-26). Driessen did not explicitly teach a first index, but it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a first index because indexes are used to speed up the retrieval of data or files and to access the files or data in a sorted order by creating an alphabetized list of keywords.

With respect to claim 24, accepting specification of a search area in a geographic region represented by the geographic database (col. 5, lines 44-56), identifying a parcel

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of data in the geographic database, wherein the parcel contains data entities that represent features encompassed within a first rectangular area located within the geographic region wherein the first rectangular area intersects the search area (col. 5, lines 43-67 and col. 6, lines 63-67). Driessen did not explicitly teach a first index associated with the parcel to identify which of a plurality of rectangular sub-areas into which the first rectangular area is divided intersect the search area, using a second index associated with the parcel to identify the data entities contained in the parcel that intersect each of the plurality of rectangular sub-areas identified as intersecting the search area, whereby the data entities that represent the geographic features located within the search area are determined, but it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a first and second index associated with the parcel to identify which of the plurality of rectangular sub-areas into the first rectangular area is divided to intersect the search area where the data entities represent the geographic features within the search area because indexes are used to speed up the retrieval of data or files and to access the files or data in a sorted order by creating an alphabetized list of keywords relating to the sub-areas that are identified in a search with the geographic features of the data entities..

With respect to claim 25, (a) identifying each parcel associated with a rectangular area that intersects the search area (col. 1, lines 40-62 and col. 3, lines 59-66), (b) for each parcel identified in step (a) using a first index associated with the parcel to identify each rectangular sub-area formed of the rectangular area ... (col. 3, lines 66-68 and col. 4, lines 1-10), (c) for each parcel identified in step (a) using a second index associated

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with the parcel to identify each of the data entities ... (col. 8, lines 18-39), whereby the data entities identified in step (c) represent geographic features located in the search area (col. 3, lines 59-68). Driessen did not explicitly teach a first index associated with the parcel to identify each rectangular sub-area ..., using a second index associated with the parcel to identify the data entities ... , but it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a first index associated with the parcel to identify the rectangular sub-area formed of the rectangular area ... and using a second index associated with the parcel to identify the data entities ... because indexes are used to speed up the retrieval of data or files and to access the files or data in a sorted order by creating an alphabetized list of keywords relating to the sub-areas that are identified in a search with the geographic features of the data entities.

With respect to claim 26, each data record represents a physical geographic feature in a geographic region (col. 5, lines 16-21), the data records are separated into a plurality of parcels (col. 1, lines 40-62), each parcel contains a separate portion of the data records such that the portion of the data records contained in each parcel represents those geographic features ... (col. 2, lines 23-50 and col. 8, lines 27-42), wherein the improvement comprises: a plurality of index tables of a first type each associated with a separate one of the plurality of parcels ... comprises: a separate reference to each data record in the parcel to which the index table is associated (col. 7, lines 21-29 and col. 8, lines 52-65), a reference to at least one of a plurality of groupings of the plurality of data records in the parcel (col. 7, lines 40-66), wherein the plurality of

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groupings are based upon a division of the area associated with the parcel of smaller sub-areas (col. 9, lines 19-42). Driessen did not teach, a plurality of index tables of a first type associated with a respective one of the plurality of parcels wherein the index tables of the first type comprises: a separate reference to each data record in the parcel in which the index table is associated, but it would have been obvious to one of ordinary skill in the art at the time the invention was made to have index tables associated with a separate reference to each data record in the parcel in which the index table is associated because index tables are a way of sorting and accessing data or files by creating an alphabetical list of keywords of the sub-areas associated with the divided parcel. An index is known to speed up the retrieval of data from storage.

With respect to claim 27, (a) data entities each of which represents a geographic feature in a geographic region (col. 5, lines 16-21), wherein the data entities are separated into a plurality of parcels (col. 1, lines 40-62), wherein each parcel contains a sub-area of the data entities (col. 5, lines 22-31), wherein the subset of data entities in each parcel represents those geographic features ... (col. 5, lines 31-33), (b) a plurality of indexes, each of which is associated with a separate one of the plurality of parcels and where the index relates each of the data entities in the subset of data entities ... (col. 1, lines 40-45, col. 2, lines 44-68, and col. 4, lines 1-10), and wherein the geographic database is stored on a computer readable storage medium (col. 5, lines 35-38). Driessen did not teach, the database is a geographic database but it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a geographic database because the geographic data in a geographical

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navigation system is usually stored on a geographical database. A database is a file composed of records with fields together with a set of operations for searching, sorting, recombining, and other functions.

With respect to dependent claim 28, this dependent claim is rejected for the similar reason given for rejected method claim 13.

With respect to claim 29, a plurality of parcels, each of which contains a separate portion of the data records, ... (col. 2, lines 23-50 and col. 8, lines 27-42), a plurality of first indexes each of which is associated with a plurality of parcels, ... (col. 8, lines 13-44), and the computer readable data structure means identifies which of the data records represent segments of roads located in any specified sub-area of any specified area (col. 4, lines 35-42, col. 5, lines 29-33 and lines 51-55, and col. 6, lines 47-54). Driessen did not explicitly teach, a plurality of second indexes each of which is associated with a plurality of parcels, ... , but it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a plurality of second indexes each of which is associated with a plurality of parcels, ... because indexes are used to sort and access data or files by creating an alphabetical list of keywords of the sub-areas associated with the parcel. An index is known to speed up the retrieval of data from storage.

(11) Response to Arguments

Prior to providing individual responses to each of the arguments, the Examiner notes the following: The invention as claimed in each of the pending claims is directed to a computer-based navigation system. The Driessen reference classified in Class 701,

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subclass 200 of the U.S. Patent classification system, is the most relevant area of search for a computer-based navigation system.

For all of the issues please refer to the rejection.

The following arguments are relevant:

In response to Appellants' arguments no. 1, page 7, second paragraph: The rejection of Appellants' Claim 23 recites as obvious over Driessen is in error for at least any of the following reasons. 1. Driessen does not disclose or suggest the first step recited in the body of Appellants' Claim 23 of "dividing the area associated " with a "parcel" "into a plurality of sub-areas." The passage cited by the Examiner to support this position (Driessen: column 5, lines 15-33) is both misinterpreted and taken out of context. This passage does not refer to the geographic area associated with a parcel, but instead is part of the disclosure that explains dividing a large database into smaller parts. Driessen has no disclosure that relates to a need to find particular data items within a parcel.

Therefore, not only is the "dividing" step of Appellants' Claim 23 not disclosed by Driessen, but Driessen provides no motivation to perform the "dividing" step.

Driessen's main cell corresponds to the parcels and the final parcels correspond to the sub-parcels (see col. 3, lines 1-10 and col. 5, lines 15-33) in Appellant's claim 23. Claim 23 is not interpreted as suggesting or disclosing "a need to find particular data items within a parcel."

In response to Appellants' arguments no. 2, page 9, second paragraph: Driessen does not disclose "a first index" (or any similar data structure) that "identifies for each data

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entity in a parcel, each of the sub-areas intersected by a geographic feature represented thereby.” Moreover, Driessen has no suggestion whatsoever that relates to any index or equivalent structure for finding data within a parcel or any suggestion about the desirability, need or benefit for providing a structure to facilitate any operation with data within a parcel.

Driessen does teach, “a main cell divided into base cells with the second identifier by forming a number of indices, each index a respective data parcel of its appertaining main cell ...” – col. 3, lines 19-32. Furthermore, it is inherent that the final data entities contained in a parcel of the sub-areas gets indexed. It is well known in the art by the skilled artisan that “indexes are used to speed up the retrieval of data or files and to access files or data in a sorted order by creating an alphabetized list of keywords.”

In response to Appellants’ arguments no. 3, page 10, paragraph 5: Appellants’ “first index” is used to answer the query “which sub-areas formed of the rectangular area corresponding to this parcel does this data intersect?” Appellants’ claim language does not suggest or disclose the “first index” is used to answer the query “which sub-areas formed of the rectangular area corresponding to this parcel does this data intersect?” Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

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In response to Appellants' arguments no. 4, page 11: Appellants' independent claims 26 and 27 both recite a "geographic database" product. In these claims, the preamble portions recite that the "geographic database" is spatially organized into "parcels."

Claims 26 and 27 are not obvious over Driessen at least for the same reasons as stated above with respect to Claim 23.

It is not interpreted that Claims 26 and 27 both recite "geographic database" product with the preamble portions reciting that the "geographic database" is spatially organized into "parcels." The preamble of claim 26 recites, "In a geographic database comprised of data records, wherein each data record represents a physical geographic feature in a geographic region, ..." and the preamble of claim 27 recites "A geographic database comprising:"

In response to Appellants' arguments no. 5, page 12: Even if it were concluded that Appellants' independent Claim 23 was obvious over Driessen, there is no suggestion to modify the database disclosed by Driessen to use a "bitmap" as the "first index" as recited in Appellants' Claim 2. Accordingly, storing the "first index" "internally of the parcel associated therewith", as recited in Appellants' Claim 4, would not be obvious in view of Driessen.

Driessen did not teach, the first index being a bitmap, but it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the first index to be a bitmap and to modify in Driessen because such a modification would allow Driessen to have a data structure in memory that represents information in the form of a

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collection of individual bits. A bit map is well known in the art as being used to represent a bit image such as a geographical map.

It is interpreted that Driessen teaches, storing the "first index internally of the parcel associated therewith" in col. 2, lines 60-68 and col. 8, lines 65-68.

In response to Appellants' arguments no. 6, page 13: Even if it were concluded that Appellants' independent Claim 23 was obvious over Driessen, Driessen contains no disclosure or suggestion regarding a "second index" associated with each "parcel" recited in Appellants' claims 5, 17, and 29.

Driessen did not teach, a plurality of second indexes each of which is associated with a plurality of parcels, ..., but it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a plurality of second indexes each of which is associated with a plurality of parcels, ..., and in view of Driessen's teachings of a second identifier by forming a number of indices, each index indicating a respective parcel of its appertaining main cell in col. 3, lines 19-22 and to modify in Driessen because such a modification would allow Driessen to have a way of sorting and accessing data or files by creating and alphabetical list of keywords of the sub-areas associated with the parcel. An index is well known in the art to speed up the retrieval of data from storage.

In response to Appellants' arguments no. 7, page 14, paragraph 1: Even if it were concluded that Appellants' independent base Claim 23 and dependent Claim 5 were

obvious over Driessen, Driessen contains no suggestion regarding use of a "kd-tree index". Accordingly, using a "kd-tree index" as the "second index" as recited in Appellants' dependent Claim 6, would not be obvious in view of Driessen.

Claim 5 does not recite the use of a "kd-tree index". Claim 6 recites, "the second index is a kd-tree index." Driessen did not teach, the second index is a kd-tree index, but it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a kd-tree index for the second index because the use of a kd-tree index is one way of ordering parcels by using a depth-first within each parcel type and layer. This provides an ordering similar to the Peano-key ordering taught in Driessen in col. 7, lines 62-68 and col. 8, lines 1-4.

In response to Appellants' arguments no. 8, paragraph 2: Claim 24 is not obvious over Driessen because Driessen does not suggest the step of "accepting specification of a search area" and second, claim 24 is not obvious over Driessen because Driessen does not suggest the step of "identifying a parcel of data ... that contains data entities that represent geographic features encompassed within a first rectangular area located within the geographic region, wherein the first rectangular area intersects said search area" and third, Claim 24 is not obvious over Driessen because Driessen does not suggest "using" either a "first index" or a "second index" associated with a "parcel". The Examiner interprets Driessen as teaching, accepting specification of a search area ... in col. 5, lines 44-56 and identifying a parcel of data ... in col. 5, lines 43-67 and col. 6, lines 63-67. Driessen did not teach, "using" a "first index" or a "second index"

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associated with a "parcel", but it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a "first index" and a "second index" associated with a "parcel" and to modify in Driessen in view of Driessen's teachings of an index, a Peano-key and parcels because such a modification would allow Driessen to speed up the retrieval of data or files and to access files or data in a sorted order.

In response to Appellants' arguments no. 9, page 16, paragraph 2: Claim 25 is not obvious over Driessen because Driessen does not suggest the step of "using a first index associated with the parcel to identify each rectangular sub-area formed of the rectangular area associated with the parcel that intersects the search." Driessen also does disclose or suggest the step of "using a second index associated with the parcel to identify each of the data entities contained therein that represents a geographic feature that intersects each of the sub-areas identified."

Driessen did not teach, using a first index associated with parcel to identify each rectangular sub-area formed of the rectangular area ..., using a second index associated with the parcel to identify the data entities ..., but it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a first index associated with parcel to identify each rectangular sub-area formed of the rectangular area ..., use a second index associated with the parcel to identify the data entities ... because indexes are used to speed up the retrieval of data or files by accessing the files or data in a sorted order. (See argument nos. 2, 6, and 8), *supra*. For the above reasons, it is believed that the rejections should be sustained.

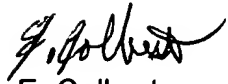
Inquiries

(12) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ella Colbert whose telephone number is 703-308-7064. The examiner can normally be reached on Monday-Thursday from 6:30 am -5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the Examiner's Supervisor, Vincent Millin can be reached on 703-308-1038. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for Official communications and 703-746-5622 for Non-Official communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113


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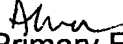
Respectfully submitted,



E. Colbert
February 5, 2003

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